

Work Order ID 164420

Wednesday, July 19, 2017 10:30:41 AM

164420

Page 1

Item ID: D3969-3 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Spring (Basket Lid)
Start Date: 7/19/2017 Start Qty: 10.00 ***10*** Cust Item ID:
Required Date: 7/28/2017 Req'd Qty: 10.00 ***10*** Customer:
Reference:

Approvals: Process Plan: DAS Date: JUL 19 2017 Tooling: _____ Date: _____ Run Start ***NR1***
QC: 21 Date: JUL 19 2017 SPC (Y/N): _____ Date: _____ Stop ***NR2***
9-39

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D3969	D

100	0.00	DAS
100		13
Purchasing		9-89

Purchasing Memo
Issue P/O: 37153
Order as per Dwg D3969
Possible supplier: LS Technologies
part#: SSA4/8-122-310-360N
Material release note is required

110	0.00	
110		
Packaging	0.20	
Packaging		

Receive & Inspect for Damage & Mat'l Certs
Memo
***Measure compression only at
5mm on gas spring***

10 JUL 20 2017
10x SOD 7-27

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment ☐		No Re-verification ☐		Pressure/Forced ☐		Temperature/Cure ☐	
Design ☐		Operator ☐		Bending ☐		Set-up ☐	
Doc/Data ☐		Offset/Setup ☐		Centre Not Concentric ☐		BOM/Route ☐	
Equip/Tooling ☐		Supplier ☐		Cracks ☐		Broken/Damage/Defect ☐	
Handling/Pre ☐		Training ☐		Crimp/Kink/Ripple/Wave ☐		Inspection Incomplete/Unqualified ☐	
Material ☐		Use for Testing ☐		Cuffs ☐		Contamination ☐	
Internal Transport ☐		Poor Information ☐		Crushing ☐		Countersink ☐	
Tribal Knowledge ☐		Rushing ☐		Heat Treat ☐		Cut Too Short ☐	
LOA ☐		Product Improvement ☐		Wave/Twist in Tube ☐		Instructions Incomplete/Unclear ☐	
Substation ☐		Process Improvement ☐		Marks/Chatter ☐		Drill Holes ☐	
Past Expiry Date ☐		Manufacturing Process ☐		OTHER : _____			
Misidentified ☐		Past Due ☐					

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Quality Control

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Date :		Step #:		QTY Effective :			MRB (QS1042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								

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Page 3

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 *130* Packaging Packaging	Identify as per dwg & Stock Location <u>81364</u> Memo	0.00 0.10				<u>10X</u>		<u>DAS 26 9-89</u>	<u>AUG 08 2017</u>
140 *140* QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 1.00							<u>17/8/10</u> <u>CZ17/08/09</u>

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

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Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Wednesday, July 19, 2017 10:30:44 AM

Page 1

164420

D3969-3

Required Date: 7/28/2017

Required Qty: 10.00

IPP Rev:B as

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
SSA4/8-122-310-360N		Purchased	No			110	Each	0.0000	1	10			
SSA4/8-122-310-360N									**	10xSP17-7-			
Gas Spring													

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

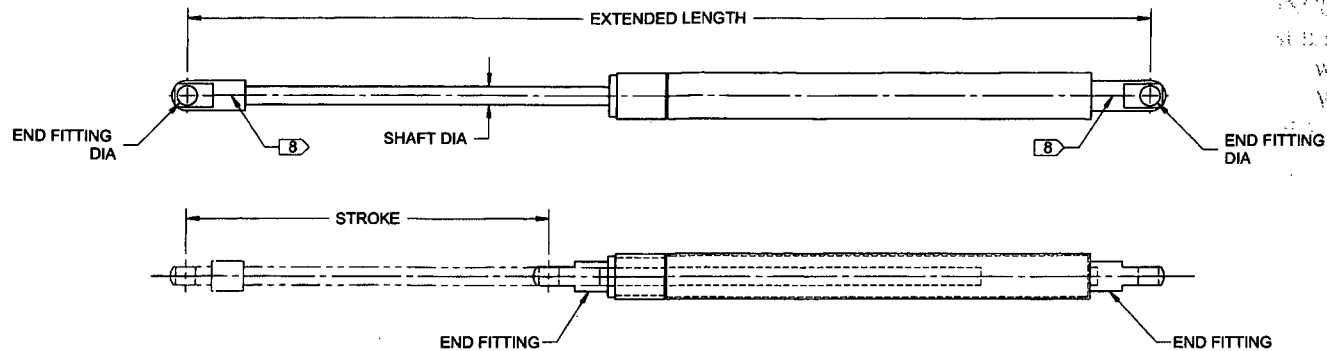
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause			FAULT CATEGORY							
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence
Past Expiry Date	☐	Manufacturing Process	OTHER : _____							
Misidentified	☐	Past Due								

SPECIFICATION CONTROL DRAWING



D3969-X SPRING

DART PART NUMBER	STROKE (mm/in)	EXTENDED LENGTH (mm/in)	SHAFT DIA (mm/in)	FORCE (N/lbs)	END FITTING TYPE	END FITTING DIA (in)	CASING MATERIAL	PREFERRED SUPPLIER	SUPPLIER PART NUMBER	WEIGHT APPROX
D3969-1	122/4.80	315/12.40	6/0.24	310/69.7	BLADE	0.257	STAINLESS STEEL	LS TECHNOLOGIES	SSA4/6-122-315-310N	0.27 lbs
D3969-3	122/4.80	315/12.40	8/0.31	360/80.9	BLADE	0.257	STAINLESS STEEL	LS TECHNOLOGIES	SSA4/6-122-310-360N	0.32 lbs
D3969-5	122/4.80	315/12.40	6/0.24	133/29.7	BLADE	0.257	STAINLESS STEEL	LS TECHNOLOGIES	SSA4/6-122-315-133N	0.27 lbs
D3969-7	122/4.80	315/12.40	6/0.24	222/50.0	BLADE	0.257	STAINLESS STEEL	LS TECHNOLOGIES	SSA4/6-122-315-225N	0.27 lbs
D3969-9	130/5.12	343/13.50	8/0.31	360/80.9	BLADE	0.257	STAINLESS STEEL	LS TECHNOLOGIES	SSA4/6-130-343-360N	0.35 lbs

NOTES:

- 1) MATERIAL: SEE CHART
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3969-X" AND B/N USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: SEE CHART
- 8) CRIMP END FITTING AT APPROXIMATE LOCATION SHOWN, PER MANUFACTURERS REQUIREMENTS

RELEASED
2016-05-19
EN 16-581

APPROVED

D	ADDED -7/-9	ML	16.05.12
C	REDRAWN IN SW. ADDED -3 & -5: ADDED SHAFT DIA COLUMN TO CHART. FORCE FOR -1 CORRECTED (WAS 60.0 lbs).	JPH	10.03.04
B	DRAWING RENAMED WAS: GAS SPRING (BASKET LID). NOTE 8 ADDED.	AJS	09.11.10
A	NEW ISSUE	AJS	09.07.27
REV.	DESCRIPTION	BY	DATE
DESIGN	AS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	ML	DRAWING NO.	REV. D
CHECKED	AJS	D3969	SHEET 1 OF 1
MFG. APPR.	DD	TITLE	SCALE
APPROVED	WM	BASKET LID SPRING	NTS
DE APPR.	DS	COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
DATE	16.05.12		

STOP COPY

RETURN TO

ENGINEERING

UNCONTROLLED COPY

SUBJECT TO AMENDMENT

WITH 30 DAY NOTICE

WORK ORDER

164420

ML5

1707-09

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
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Misidentified ☐	Past Due ☐																																																																



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO37153

Purchase Order Date 7/20/2017

PO Print Date 7/20/2017

Page Number 1 of 2

Order From :

VC-LST0001

Ship To : DART AEROSPACE LTD

LS TECHNOLOGIES INC.
314 JESSOP AVE
SASKATOON, SK S7N 1Y6
CA

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA



Contact Name

Vendor Phone 306 683 5000

Ship To Contact

Ship To Phone

Ship Via: FedEx Overnight collect

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

Customer Tax # 10127-2607

Terms

Net 30

Currency

CAD

FOB

EXW - (Ex Works)

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	B6-190-475-070N AS PER DWG D3552-23 REV. L B164458	Door Prop	7/26/2017 Yes 7/26/2017		5.00 Each	\$32.50	\$162.50

Line Total: \$162.50

2	6/15-164/50-115N AS PER DWG D2807-041 REV. E B164409	Gas Spring	7/26/2017 Yes 7/26/2017		6.00 Each	\$63.90	\$383.40
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Line Total: \$383.40

3	SSA4/8-122-310-360N AS PER DWG D3969-3 REV. D B164420	Gas Spring	7/26/2017 Yes 7/26/2017		10.00 Each	\$65.00	\$650.00
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PO Instructions: Fedex Acc#151793240

Note:

SP 17-7-27

DAS
38
9-89

7/20/2017

LS Technologies Inc
314 Jessop Ave
Saskatoon, SK S7N 1Y6

Ph: 306-683-5000 Fax: 306-683-6403

Packing Slip

P.O. No.	Date	Invoice #
37153	7/21/2017	16960

Bill to:
Dart Aerospace Ltd 1270 Aberdeen St. Hawkesbury, ON K6A 1K7

Ship to:
Main Finished Goods Location Dart Aerospace Ltd 1270 Aberdeen St. Hawkesbury, ON K6A 1K7

Ship	Via	FOB
7/21/2017	Fed-Ex	

Qty	Description
5	D3552-23 B164458 Gas Spring
6	D2807-041 B164409 Stainless Gas Spring
10	D3969-3 B164420 Stainless Gas Spring (SSA4/8-122-310-360N) LABELLED WITH PERMANT INK MARKER ONLY - NO LABELS
Shipping Via FED EX Tracking # 779707042871	
SPN-727	

Order checked by :

DAS
38
9-89



LS Technologies Inc

314 Jessop Ave

Saskatoon, SK, S7N 1Y6

Ph: (306) 683-5000 Fax: (306) 683-6403

Certificate of Compliance

March 27, 2017

This is to certify that the parts listed below meets specifications as required by your order.

5 Units : D3552-23 B164458 Gas Spring

6 Units: D2807-041 B164409 Stainless Gas Spring

10 Units: D3969-3 B164420 Stainless Gas Spring

Country of Manufacture: Canada

Date of Manufacture : March 2017

This product is ROHS compliant.

Purchase Order # 37153

Invoice # 16960

L S Technologies Inc Canada

A handwritten signature in black ink, appearing to be 'Nolan Fehr', written over a horizontal line.

Nolan Fehr
Manager